Remarks

Claims 1-8 are pending in the application, with claims 1 and 3 being the independent claims. Claims 2 and 3 are sought to be amended to define the invention even more clearly. Amendments were made to the specification to correct minor informalities and to change reference numerals 116 and 118 to be consistent with Figures 1 and 2 as originally filed. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Applicants respectfully request approval for changes to the reference numerals in FIG. 1 and FIG. 5, as shown in red on the accompanying Request for Approval of Proposed Drawing Corrections. For example, on page 7, line 29, to page 8, line 24, of the originally filed specification, flow diagram FIG. 5 is described step by step. The reference numerals 506, 508, 510, 512, and 514 in the proposed drawing change are to more clearly follow this description. These changes are made to be consistent with the specification as originally filed and are believed to introduce no new matter.

Conclusion

Favorable consideration of all pending claims is respectfully solicited. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

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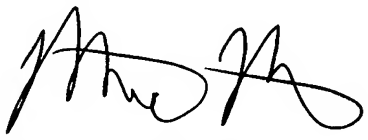

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Version with markings to show changes made

In the Drawings:

Please revise Figure 1 to include reference numerals as shown on accompanying paper to draftsperson.

Please revise Figure 5 to include reference numerals as shown on accompanying paper to draftsperson.

In the Specification:

Please amend the following paragraphs/sections as follows.

Amend the paragraph beginning on page 4, line 14, as follows:

FIG. 1 is a block diagram of a palm print scanner 100 according to an embodiment of the present invention. Palm print scanner 100 comprises, *inter alia*, an LED illuminator 102, an illuminator mirror 104, a condenser lens 106, a spring loaded prism 108, an objective lens 110, a plurality of mirrors 112, 113, 114, and 115, [a nutating mirror 116, a two-axis tilt mirror mount 118] a two-axis tilt mirror mount 116, a nutating mirror 118, a piezo driver board 120, a camera 122, an imaging lens 124, and an interface connector 126. Nutating mirror [116] 118 is a two-axis nutating mirror. The two-axis tilt mirror mount [118] 116 is used to mount nutating mirror [116] 118. Interface connector 126 enables palm scanner 100 to be interfaced to a computer for processing and displaying a palm print image. In one embodiment, the interface is an IEEE 1394 interface (also called "FIREWIRE"), which is well known to those skilled in the relevant art(s).

Amend the paragraph beginning on page 4, line 26, and ending on page 5, line 16, as follows:

In one embodiment, LED illuminator 102 is a single visible wavelength LED (such as, a blue LED). The requirement of only one LED is a further advantage of the invention. Of course, additional light sources can be added as desired. Light is emitted from LED illuminator 102, reflected off of illuminator mirror 104 through condenser lens 106 to illuminate prism 108. This process is referred to as color illumination and is well known to those skilled in the relevant art(s). When a palm is placed on prism 108, an internally reflected image from the palm is passed through objective lens 110 and bounces off of the plurality of mirrors 112-115 to nutating mirror [116] 118. Nutating mirror [116] 118 is driven by piezo driver board 120. Piezo driver board 120 comprises piezo actuators that enable the positioning of nutating mirror [116] 118. Nutating mirror [116] 118 reflects the

image upwards through imaging lens 124 to an image sensor, such as camera 122 to provide an image of the palm. Imaging lens 124 is used to focus the image on the image sensor. Prism foreshortening is corrected via software. Camera 122 provides an image having a 250 dots per inch (dpi) resolution or less. For example, camera 122 may be an inexpensive CMOS camera with a resolution less than 500 dpi. By tilting nutating mirror [116] 118 a half of a pixel in four different directions and taking an image at each of the four different directions, the present invention is able to fill in pixels to create one image having a high resolution. This high resolution can equal or exceed 500 dpi.

Amend the paragraph beginning on page 8, line 26, and ending on page 9, line 5, as follows:

The present invention is not limited to the embodiment of a palm print scanner. The present invention can be used with any system that utilizes a camera and a nutating mirror to generate an image of higher resolution [that] than what would be obtainable from the sole use of the camera. The previous description of the preferred embodiments is provided to enable any person skilled in the art to make or use the present invention. While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention.

In the Claims:

Please amend the following claims as follows.

Amend claim 2, as follows:

2. (Once Amended) The method of claim 1, wherein step (6) comprises the steps of:
(a) gathering each image of sub-pixels from memory;
(b) allocating memory for the higher resolution image;
(c) mapping sub-pixels from the first nutation position image onto the higher resolution image; and
(d) interlacing sub-pixels from each of the images obtained in steps (2), (4) and (5) onto the higher resolution image.

Amend claim 3, as follows:

3. (Once Amended) A palm print imaging system, comprising:
a light emitting diode (LED);
an illuminator mirror;
a condenser lens;
a conformable prism, wherein said LED, said illuminator mirror, and said condenser lens provide color illumination to said conformable prism to obtain an image reflected from said conformable [platen] prism;
a plurality of mirrors;

a nutating mirror, wherein said plurality of mirrors direct said image to said nutating mirror;

a driver for controlling said nutating mirror; and

a camera for capturing said image,

wherein said camera provides signals to said driver to synchronize said nutating mirror with camera frame syncs.